

SEQUENCE LISTING

<110> Field, Loren J.
Tsai, Shih-Chong

<120> P193 PROTEINS AND NUCLEIC ACIDS, AND USES THEREOF

<130> IU99-PCT

<140> Not Yet Known
<141> 2000-08-23

<150> 60/150,266
<151> 1999-08-23

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<170> PatentIn Ver. 2.1

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835 840 845

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850 855 860

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1010

1015

1020

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Leu Leu Trp Met Ser Asp Asp Glu Ile Tyr Ala Asn Cys His Lys Met
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Lys Ser Leu Ile Gln Arg Ala Leu Arg Gln Leu Glu Glu Cys Val Gly
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Lys His Leu Asp Phe Asp Ser Arg Cys Ala Leu Leu Ala Leu Phe Ala
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 Ala Ser Phe Asn Thr Tyr Ala Leu Tyr Val Arg Asp Thr Leu Arg Pro
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 Ala Glu Trp Trp Glu Leu Leu Phe Phe Ile Arg Gln Leu Ser Glu Ala
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 Ser Asn Lys Thr Leu His Leu Thr Val Leu Arg Ile Leu Met Gln Leu
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 Val Leu Glu Lys His Arg Gly Lys Leu Glu Leu Ala Gln Glu Leu Arg
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 Asp Met Val Ser Lys Cys Glu Lys His Ala His Leu Tyr Arg Lys Leu
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 Cys Arg His Thr Arg Leu Phe Tyr Met Val Arg Ala Gln Ala Trp Ser
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 Glu Asp Lys Ser Lys Lys Glu Glu Ala Ile Gly Glu Ala Ala Ala Val
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 Ala Met Ala Glu Glu Asp Gln Gly Lys Lys Glu Glu Gly Glu Glu
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 Pro Gln Thr Tyr Leu Gln Ala Glu Ala Glu Glu Gly Arg Asn Met Glu
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 Lys Arg Arg Asn Leu Leu Asn Cys Leu Val Val Arg Ile Leu Lys Ala
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 Gln Val Leu Tyr Tyr Ala Val Pro Val Thr Val Met Glu Pro His Met
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 Met Val Gly Glu Leu Arg Tyr Arg Glu
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 Phe Arg Val Pro Leu Gly Pro Gly Leu His Ala Tyr Pro Asp Glu Leu
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Ile Arg Gln Arg Val Gly His Asp Gly His Pro Glu Tyr Gln Ile Arg		
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Trp Leu Ile Leu Arg Arg Gly Asp Glu Gly Asp Gly Ser Gly Gln		
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gtg gac tgc aag gct gag cac atc ctg ctg tgg atg tcc aag gat gag		305
Val Asp Cys Lys Ala Glu His Ile Leu Leu Trp Met Ser Lys Asp Glu		
60	65	70
atc tat gcc aac tgc cac aag atg ctg ggc gag gat ggc cag gtc atc		353
Ile Tyr Ala Asn Cys His Lys Met Leu Gly Glu Asp Gly Gln Val Ile		
75	80	85
ggg ccc tcc cag gag tct gca ggg gag gtt ggg gcc ctg gac aaa tct		401
Gly Pro Ser Gln Glu Ser Ala Gly Glu Val Gly Ala Leu Asp Lys Ser		
90	95	100
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gtg ctg gag gag atg gaa acc gat gtg aag tcc ctc att cag aga gcc		449
Val Leu Glu Glu Met Glu Thr Asp Val Lys Ser Leu Ile Gln Arg Ala		
110	115	120
ctt cgg cag ctg gag gag tgt gtg ggc act atc cct cct gct cta		497
Leu Arg Gln Leu Glu Glu Cys Val Gly Thr Ile Pro Pro Ala Pro Leu		
125	130	135
ctt cac act gtc cac gtg ctc agc gcc tat gcc agc att gag ccc ctc		545
Leu His Thr Val His Val Leu Ser Ala Tyr Ala Ser Ile Glu Pro Leu		
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act gga gta ttc aag gac cca agg gtc ctg gac ttg ctc atg cac atg		593
Thr Gly Val Phe Lys Asp Pro Arg Val Leu Asp Leu Leu Met His Met		
155	160	165
ttg agt agt cct gat tat cag att cgc tgg agt gca ggc cgg atg ata		641
Leu Ser Ser Pro Asp Tyr Gln Ile Arg Trp Ser Ala Gly Arg Met Ile		
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caa gcc ctg tcc tcc cat gac gct ggg acc cgg act cag atc ctt ctg		689
Gln Ala Leu Ser Ser His Asp Ala Gly Thr Arg Thr Gln Ile Leu Leu		
190	195	200
tca ctg agc caa caa gaa gcc att gag aaa cac ctg gat ttt gac agc		737
Ser Leu Ser Gln Gln Glu Ala Ile Glu Lys His Leu Asp Phe Asp Ser		
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cgc tgt gct ctg cta gca ctg ttt gca cag gcc acg ctc tct gaa cac		785
Arg Cys Ala Leu Leu Ala Leu Phe Ala Gln Ala Thr Leu Ser Glu His		
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ccc atg tct ttc gag ggc att cag cta cca cag gtc cca gga agg gtg		833
Pro Met Ser Phe Glu Gly Ile Gln Leu Pro Gln Val Pro Gly Arg Val		
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ctc ttc tcc ctg gtg aag cgg tat ttg cat gtc acc tcg ctc ctg gat		881
Leu Phe Ser Leu Val Lys Arg Tyr Leu His Val Thr Ser Leu Leu Asp		
250	255	260
265		
cag ctg aac gac agt gct gcg gag cca gga gcc cag aac acc tct gct		929
Gln Leu Asn Asp Ser Ala Ala Glu Pro Gly Ala Gln Asn Thr Ser Ala		
270	275	280
cct gag gag ttg agt ggg gag agg ggt caa ctg gag ctg gag ttc agt		977
Pro Glu Glu Leu Ser Gly Glu Arg Gly Gln Leu Glu Leu Glu Phe Ser		
285	290	295

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 Asp Gln Ala Ser Asp Arg Pro Arg Ser Ser Ala Arg Ser Pro Gly Ser
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 Ile Phe Gln Pro Gln Leu Ala Asp Val Ser Pro Gly Leu Pro Ala Ala
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 Gln Ala Gln Pro Ser Phe Arg Arg Ser Arg Arg Phe Arg Pro Arg Ser
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 Glu Phe Ala Ser Gly Asn Thr Tyr Ala Leu Tyr Val Arg Asp Thr Leu
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 Gln Pro Gly Met Arg Val Arg Met Leu Asp Asp Tyr Glu Glu Ile Ser
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 Ala Gly Asp Glu Gly Glu Phe Arg Gln Ser Asn Asn Gly Val Pro Pro
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 gtg cag gta ttt tgg gag tca aca ggc cgc acc tat tgg gtg cac tgg
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 Val Gln Val Phe Trp Glu Ser Thr Gly Arg Thr Tyr Trp Val His Trp
 410 415 420 425

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 His Met Leu Glu Ile Leu Gly Phe Glu Glu Asp Ile Glu Asp Met Val
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 gag gct gat gag tac caa ggg gca gtg gcc agt aga gtc ctg ggt aga
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 Glu Ala Asp Glu Tyr Gln Gly Ala Val Ala Ser Arg Val Leu Gly Arg
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 Ala Leu Pro Ala Trp Arg Trp Arg Pro Met Thr Glu Leu Tyr Ala Val
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 cct tat gtg ctg cct gag gat gag gac act gag gag tgt gaa cac ctg
 1553
 Pro Tyr Val Leu Pro Glu Asp Glu Asp Thr Glu Glu Cys Glu His Leu
 475 480 485

 acc ctg gct gag tgg tgg gaa ctc ctc ttc atc aag aag ctg gat
 1601
 Thr Leu Ala Glu Trp Trp Glu Leu Leu Phe Phe Ile Lys Lys Leu Asp
 490 495 500 505

gga cct gac cat cag gag gtt ctc cag atc ctc cag gag aac cta gat
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 Gly Pro Asp His Gln Glu Val Leu Gln Ile Leu Gln Glu Asn Leu Asp
 510 515 520

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 Gly Glu Ile Leu Asp Asp Glu Ile Leu Ala Glu Leu Ala Val Pro Ile
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gaa ttg gcc cag gac ttg ctg act ctg cca cag cga ctc aat gac
 1745
 Glu Leu Ala Gln Asp Leu Leu Leu Thr Leu Pro Gln Arg Leu Asn Asp
 540 545 550

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 1793
 Ser Ala Leu Arg Asp Leu Ile Asn Cys His Val Tyr Lys Lys Tyr Gly
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 Pro Glu Ala Leu Ala Gly Asn Gln Ala Tyr Pro Ser Leu Leu Glu Ala
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 Gln Glu Asp Val Leu Leu Leu Asp Ala Gln Ala Lys Asp Ser
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gaa gat gca gcc aaa gtg gaa gca aaa gaa ccc cca tct cag agt ccc
 1937
 Glu Asp Ala Ala Lys Val Glu Ala Lys Glu Pro Pro Ser Gln Ser Pro
 605 610 615

aac act ccc ctg cag cgt ctg gtg gag ggt tat ggt cca gct ggg aaa
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 Asn Thr Pro Leu Gln Arg Leu Val Glu Gly Tyr Gly Pro Ala Gly Lys
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atc ctc ctg gat cta gag caa gcc ctc agc tca gag ggg acc cag gag
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 Ile Leu Leu Asp Leu Glu Gln Ala Leu Ser Ser Glu Gly Thr Gln Glu
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aac aag gtc aag cca ctc ctg cag ctg cag cgg cag ccg cag ccc
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 Asn Lys Val Lys Pro Leu Leu Leu Gln Leu Gln Arg Gln Pro Gln Pro
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 2129
 Phe Leu Ala Leu Met Gln Ser Leu Asp Thr Pro Glu Thr Asn Arg Thr
 670 675 680

ctg cac ctg act gtg ctg aga atc ctg aag cag ctg gtg gac ttc ccc
 2177
 Leu His Leu Thr Val Leu Arg Ile Leu Lys Gln Leu Val Asp Phe Pro
 685 690 695

gag gca ctg ctg ctc ccc tgg cac gag gcc gtg gat gcc tgc atg gcc
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 Glu Ala Leu Leu Leu Pro Trp His Glu Ala Val Asp Ala Cys Met Ala
 700 705 710

tgc ctg cgg tcc cca aac act gat cga gag gtg ctc cag gaa ctg att

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 Cys Leu Arg Ser Pro Asn Thr Asp Arg Glu Val Leu Gln Glu Leu Ile
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 2321
 Phe Phe Leu His Arg Leu Thr Ser Val Ser Arg Asp Tyr Ala Val Val
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 2369
 Leu Asn Gln Leu Gly Ala Arg Asp Ala Ile Ser Lys Ala Leu Glu Lys
 750 755 760

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 2417
 His Leu Gly Lys Leu Glu Leu Ala Gln Glu Leu Arg Asp Met Val Phe
 765 770 775

aag tgt gag aag cat gcc cac ctc tac cgc aaa ctc atc acc aac atc
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 Lys Cys Glu Lys His Ala His Leu Tyr Arg Lys Leu Ile Thr Asn Ile
 780 785 790

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 2513
 Leu Gly Gly Cys Ile Gln Met Val Leu Gly Gln Ile Glu Asp His Arg
 795 800 805

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 Arg Thr His Arg Pro Ile Asn Ile Pro Phe Phe Asp Val Phe Leu Arg
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 Glu Lys Val Glu Val Ser Ser Asn Pro His Arg Ala Ser Lys Leu Thr
 845 850 855

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 Asp His Asn Pro Lys Thr Tyr Trp Glu Ser Asn Gly Ser Ala Gly Ser
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 His Tyr Ile Thr Leu His Met Arg Arg Gly Ile Leu Ile Arg Gln Leu
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Ser Val Asn Val Met Pro Ser Ala Ser Arg Val Ile Leu Leu Glu Asn
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 2945

Leu Thr Arg Phe Trp Pro Ile Ile Gln Ile Arg Ile Lys Arg Cys Gln
 940 945 950

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Gln Gly Gly Ile Asp Thr Arg Ile Arg Gly Leu Glu Ile Leu Gly Pro
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 3041

Lys Pro Thr Phe Trp Pro Val Phe Arg Glu Gln Leu Cys Arg His Thr
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cgc ctc ttc tac atg gtt cgg gca cag gcc tgg agc cag gac atg gca
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Arg Leu Phe Tyr Met Val Arg Ala Gln Ala Trp Ser Gln Asp Met Ala
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Glu Asp Arg Arg Ser Leu Leu His Leu Ser Ser Arg Leu Asn Gly Ala
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Ala Ala Gln Ala Leu Gly Lys Thr Cys Trp Glu Ala Leu Val Ser Pro
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 3281

Val Val Gln Asn Ile Thr Ser Pro Asp Glu Asp Gly Ile Ser Pro Leu
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Gly Trp Leu Leu Asp Gln Tyr Leu Glu Cys Gln Glu Ala Val Phe Asn
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His Leu Leu Val His Val Glu Pro Cys Glu Ala Pro Pro Pro Val Val
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Asp Arg Leu Leu Gly Val Val Ser Ser Trp Leu Glu Gly Ala Val Leu 1275		1280	1285
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Lys Lys Ile Gln Val Gly Leu Gly Ala Ser Gly Lys Glu His Lys Ser 1340		1345	1350

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 Gly Glu Glu Glu Glu Glu Asn Glu Asp Leu Tyr Tyr Glu Gly Ala
 1370 1375 1380 1385

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 Met Pro Glu Val Ser Val Leu Val Leu Ser Arg His Ser Trp Pro Val
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 Ala Ser Ile Cys His Thr Leu Asn Pro Arg Thr Cys Leu Pro Ser Tyr
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 Leu Arg Gly Thr Leu Asn Arg Tyr Ser Asn Phe Tyr Asn Lys Ser Gln
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 4481
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 Ser Thr Val Gln Met Trp Leu Leu Tyr Leu Asn Asp Leu Lys Ala
 1470 1475 1480

gtc tct gtg gag agt ctg ctg gcg ttc tca ggg ctc tcc gca gac atg
 4577
 Val Ser Val Glu Ser Leu Leu Ala Phe Ser Gly Leu Ser Ala Asp Met
 1485 1490 1495

ctc aat cag gcg att ggg ccc ctc acc tct tca aga ggc ccc ctg gac
 4625
 Leu Asn Gln Ala Ile Gly Pro Leu Thr Ser Ser Arg Gly Pro Leu Asp
 1500 1505 1510

ctt cac gag caa aag gat ata cca gga ggg gtc ctc aag att cga gat
 4673
 Leu His Glu Gln Lys Asp Ile Pro Gly Gly Val Leu Lys Ile Arg Asp
 1515 1520 1525

ggc agc aag gaa ccc agg tcg aga tgg gac att gtg cgg ctc atc cca
 4721
 Gly Ser Lys Glu Pro Arg Ser Arg Trp Asp Ile Val Arg Leu Ile Pro
 1530 1535 1540 1545

cct cag acg tac ctg caa gct gag ggt gaa gac ggc cag aac ttg gag
 4769
 Pro Gln Thr Tyr Leu Gln Ala Glu Gly Glu Asp Gly Gln Asn Leu Glu
 1550 1555 1560

aag aga cgg aat ctt ctg aac tgc ctc atc gtc cga atc ctc aag gcc
 4817
 Lys Arg Arg Asn Leu Leu Asn Cys Leu Ile Val Arg Ile Leu Lys Ala
 1565 1570 1575

cat gga gat gag ggg ctg cac att gac cag ctt gtc tgt ctg gtg ctg
 4865
 His Gly Asp Glu Gly Leu His Ile Asp Gln Leu Val Cys Leu Val Leu
 1580 1585 1590

gag gct tgg cag aag ggc ccg tgt cct ccc agg ggt ttg gtc agc agc
 4913
 Glu Ala Trp Gln Lys Gly Pro Cys Pro Pro Arg Gly Leu Val Ser Ser
 1595 1600 1605

ctt ggt aag ggg tct gca tgc agc agc act gac gtc ctc tcc tgc atc
 4961
 Leu Gly Lys Gly Ser Ala Cys Ser Ser Thr Asp Val Leu Ser Cys Ile
 1610 1615 1620 1625

cta cac ctc ctg ggc aag ggc acg ctg aga cgc cat gac gac cgg ccc
 5009
 Leu His Leu Leu Gly Lys Gly Thr Leu Arg Arg His Asp Asp Arg Pro
 1630 1635 1640

cag gtg ctg tcc tat gca gtc cct gtg act gtc atg gag cct cac act
 5057
 Gln Val Leu Ser Tyr Ala Val Pro Val Thr Val Met Glu Pro His Thr
 1645 1650 1655

gag tcc ctg aac cca ggc tcc tca ggc ccc aac cca ccc ctc acc ttc
 5105
 Glu Ser Leu Asn Pro Gly Ser Ser Gly Pro Asn Pro Leu Thr Phe
 1660 1665 1670

cat acc cta cag att cgc tcc cgg ggt gtg ccc tat gcc tcc tgc act
 5153
 His Thr Leu Gln Ile Arg Ser Arg Gly Val Pro Tyr Ala Ser Cys Thr
 1675 1680 1685

gcc acc cag agc ttc tct acc ttc cgg tag ccctagactt ggggtcagg
 5203
 Ala Thr Gln Ser Phe Ser Thr Phe Arg
 1690 1695

gaaggttagag ctggagcttt tacagaaatt aaacccaaga gtttgattat
 5253

<210> 4
 <211> 1698
 <212> PRT
 <213> Homo sapiens

<400> 4
 Met Val Gly Glu Leu Arg Tyr Arg Glu Phe Arg Val Pro Leu Gly Pro
 1 5 10 15
 Gly Leu His Ala Tyr Pro Asp Glu Leu Ile Arg Gln Arg Val Gly His
 20 25 30
 Asp Gly His Pro Glu Tyr Gln Ile Arg Trp Leu Ile Leu Arg Arg Gly
 35 40 45
 Asp Glu Gly Asp Gly Ser Gly Gln Val Asp Cys Lys Ala Glu His
 50 55 60
 Ile Leu Leu Trp Met Ser Lys Asp Glu Ile Tyr Ala Asn Cys His Lys
 65 70 75 80
 Met Leu Gly Glu Asp Gly Gln Val Ile Gly Pro Ser Gln Glu Ser Ala

85	90	95
Gly Glu Val Gly Ala Leu Asp Lys Ser Val	Leu Glu Glu	Met Glu Thr
100	105	110
Asp Val Lys Ser Leu Ile Gln Arg Ala Leu Arg Gln	Leu Glu Glu Cys	
115	120	125
Val Gly Thr Ile Pro Pro Ala Pro Leu Leu His	Thr Val His Val Leu	
130	135	140
Ser Ala Tyr Ala Ser Ile Glu Pro Leu Thr Gly	Val Phe Lys Asp Pro	
145	150	155
Arg Val Leu Asp Leu Leu Met His Met Leu Ser	Ser Pro Asp Tyr Gln	
165	170	175
Ile Arg Trp Ser Ala Gly Arg Met Ile Gln Ala	Leu Ser Ser His Asp	
180	185	190
Ala Gly Thr Arg Thr Gln Ile Leu Ser Leu Ser	Gln Gln Glu Ala	
195	200	205
Ile Glu Lys His Leu Asp Phe Asp Ser Arg Cys	Ala Leu Leu Ala Leu	
210	215	220
Phe Ala Gln Ala Thr Leu Ser Glu His Pro Met	Ser Phe Glu Gly Ile	
225	230	235
Gln Leu Pro Gln Val Pro Gly Arg Val Leu	Phe Ser Leu Val Lys Arg	
245	250	255
Tyr Leu His Val Thr Ser Leu Leu Asp Gln	Leu Asn Asp Ser Ala Ala	
260	265	270
Glu Pro Gly Ala Gln Asn Thr Ser Ala Pro Glu	Glu Leu Ser Gly Glu	
275	280	285
Arg Gly Gln Leu Glu Leu Glu Phe Ser Met Ala	Met Gly Thr Leu Ile	
290	295	300
Ser Glu Leu Val Gln Ala Met Arg Trp Asp Gln	Ala Ser Asp Arg Pro	
305	310	315
Arg Ser Ser Ala Arg Ser Pro Gly Ser Ile	Phe Gln Pro Gln Leu Ala	
325	330	335
Asp Val Ser Pro Gly Leu Pro Ala Ala Gln	Ala Gln Pro Ser Phe Arg	
340	345	350
Arg Ser Arg Arg Phe Arg Pro Arg Ser Glu	Phe Ala Ser Gly Asn Thr	
355	360	365
Tyr Ala Leu Tyr Val Arg Asp Thr Leu Gln	Pro Gly Met Arg Val Arg	
370	375	380
Met Leu Asp Asp Tyr Glu Glu Ile Ser Ala	Gly Asp Glu Gly Glu Phe	
385	390	395
Arg Gln Ser Asn Asn Gly Val Pro Pro Val	Gln Val Phe Trp Glu Ser	
405	410	415
Thr Gly Arg Thr Tyr Trp Val His Trp His	Met Leu Glu Ile Leu Gly	
420	425	430
Phe Glu Glu Asp Ile Glu Asp Met Val Glu	Ala Asp Glu Tyr Gln Gly	
435	440	445
Ala Val Ala Ser Arg Val Leu Gly Arg Ala	Leu Pro Ala Trp Arg Trp	
450	455	460
Arg Pro Met Thr Glu Leu Tyr Ala Val Pro	Tyr Val Leu Pro Glu Asp	
465	470	475
Glu Asp Thr Glu Glu Cys Glu His Leu	Thr Leu Ala Glu Trp Trp Glu	
485	490	495
Leu Leu Phe Phe Ile Lys Lys Leu Asp Gly	Pro Asp His Gln Glu Val	
500	505	510
Leu Gln Ile Leu Gln Glu Asn Leu Asp Gly	Glu Ile Leu Asp Asp Glu	
515	520	525
Ile Leu Ala Glu Leu Ala Val Pro Ile	Glu Leu Ala Gln Asp Leu Leu	
530	535	540
Leu Thr Leu Pro Gln Arg Leu Asn Asp Ser	Ala Leu Arg Asp Leu Ile	
545	550	555
Asn Cys His Val Tyr Lys Lys Tyr Gly	Pro Glu Ala Leu Ala Gly Asn	
565	570	575
Gln Ala Tyr Pro Ser Leu Leu Glu Ala Gln	Glu Asp Val Leu Leu Leu	
580	585	590
Asp Ala Gln Ala Gln Ala Lys Asp Ser Glu	Asp Ala Ala Lys Val Glu	
595	600	605
Ala Lys Glu Pro Pro Ser Gln Ser Pro Asn	Thr Pro Leu Gln Arg Leu	

610	615	620
Val Glu Gly Tyr Gly Pro Ala Gly Lys Ile Leu Asp Leu Glu Gln		
625	630	635
Ala Leu Ser Ser Glu Gly Thr Gln Glu Asn Lys Val Lys Pro Leu Leu		640
645	650	655
Leu Gln Leu Gln Arg Gln Pro Gln Pro Phe Leu Ala Leu Met Gln Ser		
660	665	670
Leu Asp Thr Pro Glu Thr Asn Arg Thr Leu His Leu Thr Val Leu Arg		
675	680	685
Ile Leu Lys Gln Leu Val Asp Phe Pro Glu Ala Leu Leu Pro Trp		
690	695	700
His Glu Ala Val Asp Ala Cys Met Ala Cys Leu Arg Ser Pro Asn Thr		
705	710	715
Asp Arg Glu Val Leu Gln Glu Leu Ile Phe Phe Leu His Arg Leu Thr		720
725	730	735
Ser Val Ser Arg Asp Tyr Ala Val Val Leu Asn Gln Leu Gly Ala Arg		
740	745	750
Asp Ala Ile Ser Lys Ala Leu Glu Lys His Leu Gly Lys Leu Glu Leu		
755	760	765
Ala Gln Glu Leu Arg Asp Met Val Phe Lys Cys Glu Lys His Ala His		
770	775	780
Leu Tyr Arg Lys Leu Ile Thr Asn Ile Leu Gly Gly Cys Ile Gln Met		
785	790	795
Val Leu Gly Gln Ile Glu Asp His Arg Arg Thr His Arg Pro Ile Asn		800
805	810	815
Ile Pro Phe Phe Asp Val Phe Leu Arg Tyr Leu Cys Gln Gly Ser Ser		
820	825	830
Val Glu Val Lys Glu Asp Lys Cys Trp Glu Lys Val Glu Val Ser Ser		
835	840	845
Asn Pro His Arg Ala Ser Lys Leu Thr Asp His Asn Pro Lys Thr Tyr		
850	855	860
Trp Glu Ser Asn Gly Ser Ala Gly Ser His Tyr Ile Thr Leu His Met		
865	870	875
Arg Arg Gly Ile Leu Ile Arg Gln Leu Thr Leu Leu Val Ala Ser Glu		880
885	890	895
Asp Ser Ser Tyr Met Pro Ala Arg Val Val Val Cys Gly Gly Asp Ser		
900	905	910
Thr Ser Ser Leu His Thr Glu Leu Asn Ser Val Asn Val Met Pro Ser		
915	920	925
Ala Ser Arg Val Ile Leu Leu Glu Asn Leu Thr Arg Phe Trp Pro Ile		
930	935	940
Ile Gln Ile Arg Ile Lys Arg Cys Gln Gln Gly Gly Ile Asp Thr Arg		
945	950	955
Ile Arg Gly Leu Glu Ile Leu Gly Pro Lys Pro Thr Phe Trp Pro Val		
965	970	975
Phe Arg Glu Gln Leu Cys Arg His Thr Arg Leu Phe Tyr Met Val Arg		
980	985	990
Ala Gln Ala Trp Ser Gln Asp Met Ala Glu Asp Arg Arg Ser Leu Leu		
995	1000	1005
His Leu Ser Ser Arg Leu Asn Gly Ala Leu Arg Gln Glu Gln Asn Phe		
1010	1015	1020
Ala Asp Arg Phe Leu Pro Asp Asp Glu Ala Ala Gln Ala Leu Gly Lys		
1025	1030	1035
Thr Cys Trp Glu Ala Leu Val Ser Pro Val Val Gln Asn Ile Thr Ser		1040
1045	1050	1055
Pro Asp Glu Asp Gly Ile Ser Pro Leu Gly Trp Leu Leu Asp Gln Tyr		
1060	1065	1070
Leu Glu Cys Gln Glu Ala Val Phe Asn Pro Gln Ser Arg Gly Pro Ala		
1075	1080	1085
Phe Phe Ser Arg Val Arg Arg Leu Thr His Leu Leu Val His Val Glu		
1090	1095	1100
Pro Cys Glu Ala Pro Pro Pro Val Val Ala Thr Pro Arg Pro Lys Gly		
1105	1110	1115
Arg Asn Arg Ser His Asp Trp Ser Ser Leu Ala Thr Arg Gly Leu Pro		1120
1125	1130	1135
Ser Ser Ile Met Arg Asn Leu Thr Arg Cys Trp Arg Ala Val Val Glu		

1140	1145	1150
Lys Gln Val Asn Asn Phe Leu Thr Ser Ser Trp Arg Asp Asp Asp Phe		
1155	1160	1165
Val Pro Arg Tyr Cys Glu His Phe Asn Ile Leu Gln Asn Ser Ser Ser		
1170	1175	1180
Glu Leu Phe Gly Pro Arg Ala Ala Phe Leu Leu Ala Leu Gln Asn Gly		
1185	1190	1195
Cys Ala Gly Ala Leu Leu Lys Leu Pro Phe Leu Lys Ala Ala His Val		
1205	1210	1215
Ser Glu Gln Phe Ala Arg His Ile Asp Gln Gln Ile Gln Gly Ser Arg		
1220	1225	1230
Ile Gly Gly Ala Gln Glu Met Glu Arg Leu Ala Gln Leu Gln Gln Cys		
1235	1240	1245
Leu Gln Ala Val Leu Ile Phe Ser Gly Leu Glu Ile Ala Thr Thr Phe		
1250	1255	1260
Glu His Tyr Tyr Gln His Tyr Met Ala Asp Arg Leu Leu Gly Val Val		
1265	1270	1275
Ser Ser Trp Leu Glu Gly Ala Val Leu Glu Gln Ile Gly Pro Cys Phe		
1285	1290	1295
Pro Asn Arg Leu Pro Gln Gln Met Leu Gln Ser Leu Ser Thr Ser Lys		
1300	1305	1310
Glu Leu Gln Arg Gln Phe His Val Tyr Gln Leu Gln Gln Leu Asp Gln		
1315	1320	1325
Glu Leu Leu Lys Leu Glu Asp Thr Glu Lys Lys Ile Gln Val Gly Leu		
1330	1335	1340
Gly Ala Ser Gly Lys Glu His Lys Ser Glu Lys Glu Glu Ala Gly		
1345	1350	1355
Ala Ala Ala Val Val Asp Val Ala Glu Gly Glu Glu Glu Glu Glu		
1365	1370	1375
Asn Glu Asp Leu Tyr Tyr Glu Gly Ala Met Pro Glu Val Ser Val Leu		
1380	1385	1390
Val Leu Ser Arg His Ser Trp Pro Val Ala Ser Ile Cys His Thr Leu		
1395	1400	1405
Asn Pro Arg Thr Cys Leu Pro Ser Tyr Leu Arg Gly Thr Leu Asn Arg		
1410	1415	1420
Tyr Ser Asn Phe Tyr Asn Lys Ser Gln Ser His Pro Ala Leu Glu Arg		
1425	1430	1435
Gly Ser Gln Arg Arg Leu Gln Trp Thr Trp Leu Gly Trp Ala Glu Leu		
1445	1450	1455
Gln Phe Gly Asn Gln Thr Leu His Val Ser Thr Val Gln Met Trp Leu		
1460	1465	1470
Leu Leu Tyr Leu Asn Asp Leu Lys Ala Val Ser Val Glu Ser Leu Leu		
1475	1480	1485
Ala Phe Ser Gly Leu Ser Ala Asp Met Leu Asn Gln Ala Ile Gly Pro		
1490	1495	1500
Leu Thr Ser Ser Arg Gly Pro Leu Asp Leu His Glu Gln Lys Asp Ile		
1505	1510	1515
Pro Gly Gly Val Leu Lys Ile Arg Asp Gly Ser Lys Glu Pro Arg Ser		
1525	1530	1535
Arg Trp Asp Ile Val Arg Leu Ile Pro Pro Gln Thr Tyr Leu Gln Ala		
1540	1545	1550
Glu Gly Glu Asp Gly Gln Asn Leu Glu Lys Arg Arg Asn Leu Leu Asn		
1555	1560	1565
Cys Leu Ile Val Arg Ile Leu Lys Ala His Gly Asp Glu Gly Leu His		
1570	1575	1580
Ile Asp Gln Leu Val Cys Leu Val Leu Glu Ala Trp Gln Lys Gly Pro		
1585	1590	1595
Cys Pro Pro Arg Gly Leu Val Ser Ser Leu Gly Lys Gly Ser Ala Cys		
1605	1610	1615
Ser Ser Thr Asp Val Leu Ser Cys Ile Leu His Leu Leu Gly Lys Gly		
1620	1625	1630
Thr Leu Arg Arg His Asp Asp Arg Pro Gln Val Leu Ser Tyr Ala Val		
1635	1640	1645
Pro Val Thr Val Met Glu Pro His Thr Glu Ser Leu Asn Pro Gly Ser		
1650	1655	1660
Ser Gly Pro Asn Pro Pro Leu Thr Phe His Thr Leu Gln Ile Arg Ser		

1665 1670 1675 1680
Arg Gly Val Pro Tyr Ala Ser Cys Thr Ala Thr Gln Ser Phe Ser Thr
1685 1690 1695
Phe Arg